

REMARKS/ARGUMENTS

The Applicant originally submitted Claims 1-28 in the application. In previous responses, the Applicant added Claim 29 and subsequently canceled Claims 23-29 without prejudice or disclaimer. In the present response, the Applicant has amended independent Claims 1 and 22 to further clarify previously presented limitations. As such, the scope of the claims has not changed and, as a result, no further search is needed. Support for the amendment can be found, *e.g.*, from the last paragraph on page 5 through the last full paragraph on page 6 and Fig 1 of the original specification. No other claims have been added or canceled. Accordingly, Claims 1-22 are currently pending in the application.

I. Rejection of Claims 1-22 under 35 U.S.C. §103

The Examiner has rejected Claims 1-22 under 35 U.S.C. §103(a) as being unpatentable over U.S. Patent No. 5,737,631 to Trimberger (hereinafter “Trimberger”) in view of an article entitled “Configurable Multiplier Blocks for use within an FPGA”, 1998 by Haynes, *et al.* (hereinafter “Haynes”), and further in view of an article entitled “A Flexible LUT-Based Carry Chain for FPGAs”, 2003 by Lodi, *et al.* (hereinafter “Lodi”). The Applicant believes the invention as presently claimed, however, is neither shown nor suggested in the cited portions of the cited combination of Trimberger, Haynes, and Lodi, as applied by the Examiner. More specifically, the Applicant fails to find where the cited portions of the cited combination of Trimberger, Haynes, and Lodi teach or suggest: 1) a decode unit which separates control instructions from data processing instructions and is operable to detect whether a data processing instruction defines a fixed data processing instruction

or a configurable data processing instruction; or 2) a dedicated data processing facility, separate from a dedicated control processing facility, that comprises a first data execution path including fixed operators and a second data execution path including at least configurable operators, where both of the first and second data execution paths are separate from a control execution path and each other. Independent Claims 1 and 22 now have been amended to add these clarifications to previously presented independent Claims 1 and 22.

At the bottom of page 2 and top of page 3 and pages 10-11 of the Office Action, the Examiner has equated: 1) element 112 of Fig. 2 of Trimberger with the claimed decode unit; 2) components 100 and 103 of Fig. 2 of Trimberger with the claimed dedicated control processing facility; 3) element 100 of Fig. 2 of Trimberger with the claimed first data execution path; and 4) element 120 of Fig. 2 of Trimberger with the claimed second data execution path. Here, the Examiner has equated element 100 of Fig. 2 of Trimberger with both the claimed control execution path and the claimed data processing execution path. As noted above, independent Claims 1 and 22, however, have been amended to more clearly point out that there are three execution data paths, each separate from each other - a control execution path in a dedicated control processing facility, a first data execution path in a dedicated data processing facility, and a second data execution path also in the dedicated processing facility.

Fig. 2 of Trimberger, relied upon by the Examiner, however, teaches only two execution paths – a path through execution unit 100 and a path through a programmable execution unit 120. While the decoder 112 of Trimberger may separate instructions for execution unit 100 and programmable execution unit 120 (*see, e.g.*, lines 45-50 of column 7 of Trimberger as relied upon by

the Examiner on pages 3 and 11 of the Office Action), the decoder 112 of Trimberger does not teach or suggest separating control instructions from data processing instructions AND separating fixed data processing instructions from configurable data processing instructions. For at least these reasons, the cited portions of Trimberger do not teach or suggest a control execution path for control instructions, a first data execution path for fixed data processing instructions, a second data execution path for configurable data processing instruction, or a decode unit to separate a control instruction from a fixed data processing instruction from a configurable data processing instruction as recited in presently amended independent Claims 1 and 22.

Neither Haynes nor Lodi have been cited to cure the above-noted deficiencies of Trimberger but to teach configurable operators pre-configured into a plurality of hardwired operator classes. (See page 4 and pages 11-12 of the Office Action.) Without addressing whether Haynes or Lodi teach configurable operators pre-configured into a plurality of hardwired operator classes, the cited portions of the cited combination of Trimberger, Haynes, and Lodi, as applied by the Examiner, does not provide a *prima facie* case of obviousness for presently amended independent Claims 1 and 14 and Claims that depend thereon. Accordingly, the Applicant respectfully requests the Examiner to withdraw the §103(a) rejection of Claims 1-22 and allow issuance thereof.

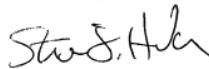
II. Conclusion

In view of the foregoing amendment and remarks, the Applicant now sees all of the Claims currently pending in this application to be in condition for allowance and therefore earnestly solicits a Notice of Allowance for Claims 1-22.

The Applicant requests the Examiner to telephone the undersigned agent of record at (972) 480-8800 if such would further or expedite the prosecution of the present application. The Commissioner is hereby authorized to charge any fees, credits or overpayments to Deposit Account 08-2395.

Respectfully submitted,

HITT GAINES, PC



Steven J. Hanke
Registration No. 58,076

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P.O. Box 832570
Richardson, Texas 75083
(972) 480-8800